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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10-076,224	02/13/2002	Mark W. Miles	01568-013001	9901

7590 06/06/2003

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EXAMINER

HASAN, MOHAMMED A

ART UNIT PAPER NUMBER

2873

DATE MAILED: 06/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/076,224

Applicant(s)

MILES ET AL.

Examiner

Mohammed Hasan

Art Unit

2873

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 32 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 21 - 32 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4 - 7 is/are rejected.
- 7) ☒ Claim(s) 3, 8 - 20 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, and 4 - 7 are rejected under 35 U.S.C. 102 (b) as being anticipated by Goldburt et al (4,900,136).

Regarding claim 1, Goldburt et al disclose (refer to figure 1) a solid state light modulator 10 comprises a cavity having a cavity dimension, the cavity being configured so that the cavity dimension change in response to electrostatic forces applied to the cavity, e.g., reflective electrode 18 is deformed by deformable layer 16 when the voltage is applied to the electrodes 14, and at least two electrical structures configured to apply electrostatic forces applied to the cavity, the electrical structures being independently controllable (column 2, lines 63 – 68, column 3, lines 1 – 35).

Regarding claim 2, Goldburt et al disclose (refer to figure 1) the cavity dimension is determined by a distance between the two walls and the cavity dimension determines optical properties of the cavity (column 3, lines 67 – 68, column 4, lines 1 – 12).

Regarding claim 4, Goldburt et al disclose an optical property include reflectance (e.g., light reflective layer 18).

Regarding claim 5, Goldburt et al disclose electrical structure comprise electrodes (18 and 14) (figure 1 show electrodes 18 and 14 structure).

Regarding claim 6, Goldburt et al disclose electrical structure lie on a wall of the cavity (as shown in figure 1 electrical structures).

Regarding claim 7, Goldburt et al disclose electrical structures lie side by side on the wall of the cavity (figure 1 show a cavity structure).

Allowable Subject Matter

2. Claims 4, 8 – 20 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

3. The following is a statement of reasons for the indication of allowable subject matter: The prior art fails to show an optical properties include reflectance, an interference modulator, the cavity dimension determines an optical state of the modulator, electrostatics forces are characterized by hysteresies, first and second cavity sharing a common wall, the stops defining an intermediate cavity dimension between a minimum cavity dimension and a maximum cavity dimension, a second wall of the cavity configured to receive the stops, and additional cavities having cavity dimensions,

Art-Unit: 2873

and each of cavities being configured so that its cavity dimension changes in response to electrostatic forces applied to the cavity.

4. Claims 21 – 32 are allowed.

5. The following is an examiner's statement of reasons for allowance: The prior art taken either singularly or in combination fails to anticipate or fairly suggest the limitations of the independent claims, in such a manner that a rejection under 35 U.S.C. 102 or 103 would be proper. The prior art fails to teach a combination of all the claimed features as presented in independent claims 21 and 27, which includes a pattern of conductors connecting the actuation electrodes in groups and energizing one electrical structure to apply an electrostatic force in the cavity and independently energizing another electrical structure to apply an electrostatic force in the cavity.

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The closest prior art Moraw et al (4,392,711) and Goldburt et al (4,857,978).

Moraw et al (4,932,711) disclose a process and apparatus for rendering visible an electrostatic charge image by deforming the surface of a liquid being present on a support into a reversible, optically readable relief image, and to an apparatus which is suitable for carrying out the process.

Goldburt et al (4,857,978) disclose a solid state light modulator structure.

Art.Unit: 2873

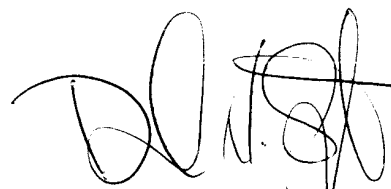
Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mohammed Hasan whose telephone number is (703) 306-0089. The examiner can normally be reached on M-TH, 7:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on (703) 308-4883. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7724 for regular communications and (703) 306-5515 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

MH
June 2, 2003


PRIMARY EXAMINER
5/30/2003